

Receipt #4
PATENT

Atty. Docket 083818-0278123
Client Ref. TEN-009(U)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: PATENT APPLICATION OF

Inventor(s): Hongbin Ji et al.

Appln. No.: 10/032,379

Filed: December 21, 2001

I certify that this paper is being deposited with the U.S. Postal Service as first class mail in an envelope with postage prepaid, addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 5, 2003.


Deanna Costen

Title: FAST IP ROUTE LOOKUP WITH 16/K AND 16/Kc COMPRESSED DATA STRUCTURES

Date: May 5, 2003

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

REQUEST FOR CORRECTED FILING RECEIPT

1. Attached is a redlined copy of the official filing receipt from the PTO in the above application for which issuance of a corrected filing receipt is respectfully requested. **Also enclosed are an Amended Declaration and Power of Attorney correcting the priority claim, executed by the inventors**, and a copy of page one of the specification as originally filed identifying the cross-reference to related applications data thereon.

2. There is an error with respect to the following data which is

- | <input checked="" type="checkbox"/> incorrectly entered
Error in | and/or | <input checked="" type="checkbox"/> omitted
Correct data |
|---|--------|--|
| 1. <input type="checkbox"/> Applicant's Name | | 1. |
| 2. <input type="checkbox"/> Applicant's Address | | 2. |
| 3. <input type="checkbox"/> Title | | 3. |
| 4. <input type="checkbox"/> Filing Date | | 4. |
| 5. <input type="checkbox"/> Serial Number | | 5. |
| 6. <input type="checkbox"/> Foreign/PCT Application Re | | 6. |
| 7. <input checked="" type="checkbox"/> Other: Priority claim | | 7. THIS APPLN CLAIMS BENEFIT OF:
60/249,627, filed 01/16/00;
60/264,667, filed 01/25/01; and
09/780,895, filed 02/09/01 |

3. It is understood that the PTO no longer charges for correcting filing receipts even when the error is applicants' mistake, but if that is incorrect and a fee is due for this correction please charge our Deposit Account No. 03-3975 under Order No. 083818-0278123/

Pillsbury Winthrop LLP
Intellectual Property Group

1600 Tysons Boulevard
McLean, VA 22102
Tel: (703) 905-2000

By Atty: Mark J. Danielson

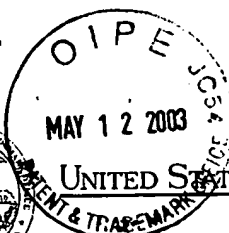
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Tel: (650) 233-4777

Atty/Sec: MJD/DMC

(Attach Filing Receipt copy and PTO receipt PAT-103A)



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	DRAWINGS	TOT CLAIMS	IND CLAIMS
10/032,379	12/21/2001	2661	561	83818- 278123 TEN-009(U)	17	15	6

CONFIRMATION NO. 5476

UPDATED FILING RECEIPT



OC000000007730353

PILLSBURY WINTHROP, LLP
1600 Tysons Boulevard
McLean, VA 22102

Date Mailed: 04/02/2002

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Hongbin Ji, San Jose, CA;
Michael Carchia, Santa Clara, CA;

Domestic Priority data as claimed by applicant

THIS APPLN CLAIMS BENEFIT OF ~~60/264,667 01/25/2001~~
~~AND CLAIMS BENEFIT OF 60/255,089 12/12/2001~~
(*) Data inconsistent with PTO records.

60/249,627, 01/16/00
60/264,667, 01/25/01
09/780,895, 02/09/01

Foreign Applications

If Required, Foreign Filing License Granted 01/31/2002

Projected Publication Date: 07/04/2002

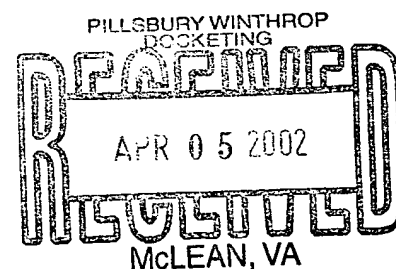
Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title

Fast IP route lookup with 16/K and 16/Kc compressed data structures



Preliminary Class

370

**LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15**

GRANTED

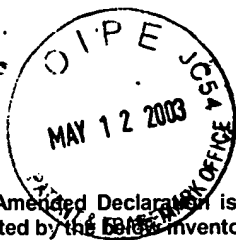
The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).



AMENDED DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION RULE 63 (37 C.F.R. 1.63)

This Amended Declaration is submitted in order to correct the domestic priority data appearing on the Declaration and Power of Attorney executed by the below named inventors on January 18, 2002.

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled **Fast IP Route Lookup with 16/K and 16K/c Compressed Data Structures**, filed in the United States Patent & Trademark Office on **December 21, 2001** and assigned **Serial No. 10/032,379**.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56. I hereby claim foreign priority benefits under 35 U.S.C. 119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate filed by me or my assignee disclosing the subject matter claimed in this application and having a filing date (1) before that of the application on which priority is claimed, or (2) if no priority claimed, before the filing date of this application:

<u>PRIOR FOREIGN APPLICATION(S):</u>	<u>Date first Laid-</u>	<u>Date Patented</u>	<u>Priority Claimed?</u>		
<u>Number</u>	<u>Country</u>	<u>Day/MONTH/Year Filed</u>	<u>open or Published:</u>	<u>or Granted:</u>	<u>Yes</u> <input type="checkbox"/> <u>No</u> <input type="checkbox"/>

I hereby claim domestic priority benefit under 35 U.S.C. 119/120/365 of the indicated United States applications listed below and PCT international applications listed above or below and, if this is a continuation-in-part (CIP) application, insofar as the subject matter disclosed and claimed in this application is in addition to that disclosed in such prior applications, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56 which became available between the filing date of each such prior application and the national or PCT international filing date of this application:

PRIOR U.S. PROVISIONAL, NONPROVISIONAL AND/OR PCT APPLICATIONS

<u>Application No.:</u>	<u>Day/MONTH/Year Filed:</u>	<u>(pending, abandoned, patented)</u>	<u>Priority Claimed?</u>
60/249,627	January 16, 2000	inactive	Yes
60/264,667	January 25, 2001	inactive	Yes
09/780,895	February 9, 2001	pending	Yes

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

And I hereby appoint Pillsbury Winthrop LLP, 1600 Tysons Boulevard, McLean, Virginia 22102 (703) 905-2000 to whom all communications are to be directed), and the below-named persons (of the same address) individually and collectively my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith and with the resulting patent, and I hereby authorize them to delete names of persons no longer with their firm and to act and rely on instructions from and communicate directly with the assignee which first sent this case to them and by which I hereby declare that I have consented after full disclosure to be represented, unless/until I instruct the above Firm in writing to the contrary.

The undersigned hereby authorizes Pillsbury Winthrop, LLP, of the above address, to insert further information necessary or desirable for identification purposes.

George M. Sirilla	18,221	Glenn J. Perry	28,458	Stephen C. Glazier	31,361	Adam R. Hess	41,835
Richard H. Zaitlen	27,248	Roger R. Wise	31,204	Suzanne L. Biggs	30,158	William P. Atkins	38,821
Dale S. Lazar	28,872	Mark G. Paulson	30,793	David A. Jakopin	32,995	David H. Jaffer	32,243
Jonathan E. Jobe	28,428	John R. Wetherell Jr	31,678	Brian J. Beatus	38,825	Jack S. Barufka	37,087
James E. Eakin	27,874	Paul L. Sharer	36,004	Anand Sethuraman	43,351	Robert J. Walters	40,862
Steven T. Moore	35,959	Anthony L. Miele	34,393	Robin L. Teskin	35,030	Paul L. Sharer	36,004
Ross L. Franks	47,233	Mark J. Danielson	40,580				
Christopher D. Agnew	43,464	Patent Agent					

INVENTOR'S SIGNATURE: _____

1) Inventor's Name: **Hongbin Ji**
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Date: **05/21/02**
Citizenship: **China**

INVENTOR'S SIGNATURE:



2)

Inventor's Name:

Michael Carchia

Residence:

Santa Clara, CA

Post Office Address:

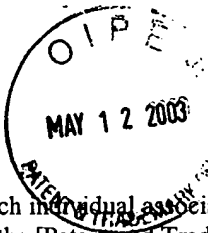
582 Chapman Ct.

Santa Clara, CA 95050

Date

5/21/2002

Citizenship: **United States of America**



Rule 56(a) & (b) = 37 C.F.R. 1.56(a) & (b)
PATENT AND TRADEMARK CASES - RULES OF PRACTICE
DUTY OF DISCLOSURE

- (a) ... Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the [Patent and Trademark] Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability... (b) information is material to patentability when it is not cumulative and (1) It also establishes by itself, or in combination with other information, a prima facie case of unpatentability of a claim or (2) refers, or is inconsistent with, a position the applicant takes in: (i) Opposing an argument of unpatentability relied on by the Office, or (ii) Asserting an argument of patentability.

PATENT LAWS 35 U.S.C.

§102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless--

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent or
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or
- (c) he has abandoned the invention, or
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months* before the filing of the application in the United States, or
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or
- (f) he did not himself invent the subject matter sought to be patented, or
- (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

§103. Condition for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made. Subject matter developed by another person, which qualified as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

* Six months for Design Applications (35 U.S.C. 172).

FAST IP ROUTE LOOKUP WITH
16/K AND 16/Kc COMPRESSED DATA STRUCTURES

CROSS-REFERENCE TO RELATED APPLICATION

5 This application is related to application serial numbers 60/249,627 and
60/264,667, from which this application claims priority under 35 U.S.C. § 119(e), and serial
number 09/780,895 based on 35 U.S.C. § 120. All three of the above applications are
incorporated herein by reference.

10 BACKGROUND OF THE INVENTION

1. Field of the Invention

 The present invention is directed to communication networks and, more
particularly, to routing messages in communication networks.

15 2. Background of the Related Art

 Since the 1990s the Internet has grown substantially in terms of the continuously
increasing amount of traffic and number of IP routers and hosts on the network. One of the
major functions of IP routers is packet forwarding, which is basically doing a routing table
lookup based on an IP destination field in an IP packet header of an incoming packet and
20 identifying a next hop over which the incoming packet should be sent.

 Primarily, three approaches have been used for IP route lookup -- pure software,
pure hardware and a combination of software and hardware. In early-generation routers where
line card interfaces were running at low speed, appropriately programmed general-purpose